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ABSTRACT

Although it is frequently assumed that students who meet college entrance requirements have mastered basic reading skills, the presence of so many college reading and study skills centers argues that such is not the case. Many college students need help with some basic skills. To provide such help, careful diagnosis of individual abilities is needed. This diagnosis should be thorough, including standardized tests, informal reading tests, and speech, hearing, and vision tests. It is important to note that each of these evaluative measures has certain advantages and disadvantages. These should be kept in mind so that the measures can be used with maximum efficiency. The diagnostician should couple the information he gets from tests with information he has gathered from students' records. Finally, he should be able to prescribe possible sequences of instruction based on the skill needs of the individual, as discovered through diagnosis. A bibliography is included. (MS)

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DIAGNOSTIC AND SCREENING INSTRUMENTS: TESTS AND DEVICES FOR ASSISTING COLLEGE READING SKILLS

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Differences in Diagnosing College Students

In the interests of economy of both time and effort, beginning reading is regularly taught by the use of carefully planned systematic procedures in a graded sequence of specific reading skills. This characteristic of the instructional program forms the basis for procedures of diagnostic testing which assess samples of reading behavior in terms of their relative position in the overall instructional program sequence. By expressing test results in terms of grade placement and percentile rank for the various subskills in the test instrument, such standardized test results are especially useful in early stages of reading because they specify simultaneously both the type of reading problem to be remedied and the level of sophistication of the instructional material required to achieve the goals in question. Properly supplemented by other information, such standardized diagnoses can be considered the most crucial need in providing an effective remedial program in the early years of instruction.

Diagnostic testing at the college level, however, cannot be so neatly organized. It is generally assumed that any student who has met the college level entrance requirements, has substantially mastered most basic reading skills. The reading diagnosis of such a student therefore is usually not overly concerned with analyzing basic reading skills, and the scores derived from testing the higher level reader does not indicate the level of instructional material needed except in a general sort of way. At earlier levels the true purpose of a diagnosis is to indicate the problems the student is having in learning to read; but at the higher level, the diagnosis is primarily an indicator of how well the student can read to learn.

There are differences in the college reading clinic population which affect the nature of diagnosis as well. First of all, generally speaking, most of these students are self-referred. Their motivation generally derives from three major sources: 1) low grade point averages, 2) the concern about slow rate of reading, and 3) the belief that they are not living up to their academic potential.

As a result of special admissions policies and programs designed especially for the disadvantaged child, however, there are increasing numbers of students arriving at these clinics under a certain amount of duress. Frequently these students are required to enroll in reading and study skills courses either as a condition for enrollment or as a requirement for remaining in school. This group seems to present a slightly different kind of problem. Although they frequently have similar difficulties to the first group since they did not enroll on their own volition, they often feel a certain resentment or humiliation at being identified as poor academic risks. It must be expected also that in this group there will be more students likely to have basic reading difficulties than in the average college population. In all likelihood their general reading scores approximate the average for freshmen but their subscore profile will frequently reveal specific areas of weakness.

An effective diagnostic program at this level requires knowledge of and skill in using a variety of evaluatory tools such as tests, check sheets, questionnaires, interviews, inventories, surveys, and even observations. The procedures required

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may be formal and/or informal depending on individual needs and purposes. The areas to be evaluated may well be general reading ability itself or one of the various factors related to reading such as intelligence, vision, hearing, personality factors, and even information regarding the student's vocational goals. Because of the nature of the reading problem most frequently encountered at this level, an effective diagnosis should take into account the fact that the student's reading ability is the product of his total personality and environmental factors, and, therefore, in order to assess and alter his reading performance these components must be taken into account in the examination as well.

Diagnostic Procedures

The most obvious first step in such a diagnosis is to determine for certain whether the student actually has a reading skill deficiency or if his reading problems are the result of some facet of his personality or study technique. This type of information is usually determined from an initial screening interview. This step involves a review of the individual's academic record, past standardized test performance, previous trends in academic achievement, and the collection of any other evidence of academic performance and motivation. If it is practical, this information can be profitably supplemented by conferences with specific teachers, especially with those who have referred the student to the clinic. Any other information about the student's attitudes toward school, toward his studies, his motivation, and vocational aspirations is especially valuable and should be gathered at this point.

Standardized Procedures

With this general knowledge of the student as an individual and person, the next logical step is to administer a diagnostic reading test to establish as accurately as possible his present reading ability. Some of the more useful areas for which standard scores are sought at this level are reading speed, vocabulary, general comprehension of materials, comprehension of study-type material, the ability to read for a purpose, ability to adjust speed of reading to different materials, and perhaps skill in locating material or directed reading. It is also useful to get a paragraph and sentence comprehension score as well. In interpreting standardized test scores there are incidental factors which must always be taken into account. Objects of special concern are:

1. Physical surroundings. The atmosphere under which the test was taken should be taken into account. The classroom should have been free of interruptions or unusual noises, the temperature and lighting should have been satisfactory.

2. The mental and physical condition of the individual. Often students freeze in test situations or may be suffering some physical discomfort at the time of testing. This is especially true in situations where groups are tested rather than individuals.

3. Pupil's previous experience with tests. Often pupils acquire a certain amount of test sophistication and experience which may enhance their test score. This is particularly difficult to assess but when the format and directions for a particular subtest in a standardized test are considerably different from other scores in the same test, it is reasonable to assume that this factor might account for part of the discrepancy.

4. Guessing. A clinician must learn how to distinguish an intelligent guess from a wild guess. Often analyzing why an answer was given or the thought processes by which it was achieved can be as revealing as the test score itself. Therefore, it is useful to review test errors with the student before forming final conclusions.

The purpose of using standardized tests is to aid in the formulation of an instructional program for improvement. However, this is not always apparent from a review of the various subtest scores provided by many standardized tests. Some skills cannot be taught in isolation, for example. Fortunately, research has shown that many of the subtest scores reported by various reading tests are not, in fact, separable and therefore either need not or can not be taught in isolation. Researchers such as Traxler, Ganz, Davis, Langsam, Conant, Artley, Hall, Robinson, Harris, Maney, Sochor, Hunt, Stoker, Kropp, and many others are in general agreement after analyzing many of the more commonly used tests that at the college level, at least, reading ability has become so highly organized that an individual's performance on all kinds of reading tests is pretty much of a piece defying diagnosis or differentiation to any valid degree. The review of the research in this area leads one to conclude that the studies seem to be in agreement that most measurable variance in subtests of reading competence can be accounted for in terms of a very small number of factors. Probably not more than six factors account for over 90 per cent of the variance in these tests. It seems that the numerous discreet reading skills to which separate titles are assigned are, in fact, very closely related insofar as test results reveal and we can for all practical purposes consider them virtually identical. For purposes of instruction, therefore, we can conclude that tests probably recognize and measure with any kind of reliability no more than about four components of reading ability: 1) a general verbal factor, 2) comprehension of explicit detail, 3) comprehension of implied meaning, and 4) an element that we may call appreciation.

Under the so-called verbal factor would be included things like word knowledge, and the breadth, depth, and scope of vocabulary. Obviously, word mastery is a prerequisite to attaining any competence in reading skills at higher levels. We are well equipped to measure this factor at almost any level. We can develop instructional programs to remedy such deficiencies. The comprehension of explicit detail includes such skills as locating specifically stated information, comprehending literal meaning, and perhaps the ability to follow directions. These skills are measured rather acceptably by most tests too, and we are able to develop exercises to improve these reading skills. The third component, comprehension of implied meaning, includes those outcomes which would be classified under the general title 'reasoning.' This includes ability to draw inferences, to predict outcomes, to derive meaning from context, and to perceive the main idea of organization and interpretation of meaning by applying it or deriving generalizations from it. Though more demanding, we can prepare suitable instructional material for increasing this reading skill. The skill to grasp the explicit meaning of what is read presupposes an ability to understand, therefore we would expect to find these two factors very highly correlated.

More attention in late years has been given to inferential and interpretive skills in tests. Some have criticized this tendency as an overlap into factors that are more properly diagnosed under intelligence. However, the intellectual operations or processes commonly included in our notion of reading as a thinking process are really undistinguishable from at least certain skills and operations and processes which would be defined as factors in general intelligence, so the problem does not seriously affect instruction.

Under the term 'appreciation' we would include things such as sensing the intent or purpose of the writer, judging mood or tone, perceiving literary devices by which purposes are accomplished, detecting propaganda, etc. Though such outcomes are probably distinct from others, they are less clearly established by research. As a result, they have not until recently been of much concern to testmakers. Until such tests are in greater supply, we will probably have to depend on informal testing procedures for examining this factor of reading. We might note, however, that this factor is not so critical in some areas of college studying as in

others, and therefore its omission would only do selective harm. For example, in the area of science, it is not so nearly a useful skill as in the area of literature. These skills are harder to teach mostly because teachers have only vague ideas of the desired outcomes. Better understanding on the part of the teacher will make preparation of instructional material possible.

Due to its direct relationship to efficiency and because it is the most commonly reported symptom of reading needs among students at college reading clinics, the measurement of speed of reading merits special discussion. Unfortunately, too many people are of the opinion that the measurement of reading rate is a simple, straightforward operation. However, when we measure reading rate we are not concerned with speed as such, that is, simply with the rapidity with which a reader moves over a given number of lines or words. Reading rate is meaningful only insofar as it defines the speed at which a reader covers material with a particular level of comprehension. Rate, then, is a function of a level of difficulty of the material and the reading purpose of the reader. Speed enters into the diagnostic picture because we want students to adapt their reading to the demand of particular materials, that is, to move rapidly or slowly according to the requirements of their own purpose and the material itself.

Measuring speed becomes complex because it is closely associated with comprehension. The measurement of reading rate is also complicated by the fact that a test situation poses a quite different motivation for the average reader than a normal, unsupervised reading assignment. The problem of validity of the rate score is complicated because the test situation is quite different from the normal reading situation and motivation varies from one time and subject to another. As a result, the interpretation of rate scores requires considerable attention, at least in cases where rate measures are obtained when the subject is aware that speed is being appraised. It is important to remember that rate measures are not perfectly correlated by any means with comprehension. Probably the most important use of rate measures is to identify with considerable confidence readers who read excessively slow. This element of flexibility is probably better taught as a result of informal testing discussed later.

In conclusion, no diagnosis should be considered complete unless it has included at least a minimum visual and hearing screening test, a reliable intelligence test score, and a screening personality inventory. Such information will be useful objective evidence for validating tentative conclusions and impressions formed during the initial interview.

Informal Tests

Because such a large proportion of the class of college reading programs are referred for specific deficiencies in reading ability in a particular subject area, informal reading inventories often provide the most valuable pragmatic information which can be gathered about an individual's real reading needs. The informal inventory allows the clinician to observe an individual reading the actual material which is causing him difficulty. Through close observation, the clinician is able to gain valuable insights about the individual and the way he reacts to his classroom environment and reading assignments. These informal measures are also useful in diagnosing aspects of reading achievement which are not measured by standardized tests such as the ability to organize and retain ideas in extended reading passages. Such measures can also serve as a check on the results of standardized tests given to particular individuals, and probably they are only ways to measure the less tangible aspects of reading such as the approach to a textbook assignment, techniques of notemaking, or interests and attitudes toward reading particular subject matter.

An informal source of information on reading ability of the student often overlooked by clinicians is a survey of samples of the student's actual classroom work,

his class notes, for example, or notes on his textbook assignments. Reviewing what the student has underlined in his text is a most revealing source of information on his thought processes during reading it. Returned examinations can also prove useful sources of information about the way students read their examination questions. The most direct way to secure realistic ideas of a student's reading skill in college is to have him read selections from a variety of textbooks.

Perhaps the most serious shortcoming of such informal reading evaluation based on textbook selections is the absence of criteria against which to judge performance. This shortcoming can be compensated for rather effectively by selecting two readings from each of several texts the student will have to use in his classwork. These readings should be approximately 1,000 words in length and follow one another immediately in the text if possible. The student is allowed to read the first selection silently and the clinician notes the amount of time required to complete the reading. A comprehension test over the material thus read is then administered. The student should be expected to read the material around 250 words per minute and get 75 to 85 per cent comprehension. The second selection of approximately the same length should be read aloud in the presence of the clinician. As the student reads aloud, the clinician records the amount of time it takes to read the article, makes notes regarding the fluency of the reading, and the relative freedom from head movements, finger pointing, and other manifestations of tenseness and uneasiness. The reading rate for this selection should be somewhat lower than that for the silent reading--perhaps 150 words per minute in most study-type material. The comprehension test is administered orally and the answers given orally. The student should be encouraged to explain his answers if they are not sufficiently clear. The comprehension score should be about 75 to 85 per cent.

It is useful to have some criteria for interpreting this oral reading. Some system for counting errors is most desirable. One system is to deduct one point for each error made in oral reading. Errors would be counted for substitution, mispronunciation, unknown words, omission of key words. One-half a point can be deducted for errors such as the addition or omission of inflectional endings, repetitions, addition or omission of articles, prepositions, conjunctions, and personal pronouns, and other mistaken insertions. Probably spontaneous corrections should not be counted as errors but should be taken into account in the general evaluation of reading effectiveness. It is important that the clinician or examiner not pronounce any words in the selection for the student, otherwise comprehension might be affected. If a student refuses to go on, he should simply be encouraged to skip the word and continue. A total score of less than 75 or 80 should be taken as an indication that the student needs help in specific reading skills.

Study skills constitute another area in which informal testing can be particularly useful. A group can be given 20 or 30 minutes to read a chapter or portion of a chapter from a specific text. Paper is supplied for notemaking, and students may use their notes in answering the questions which will be presented to them after the reading assignment is terminated, however, they may not refer to the chapter itself once the reading time is finished. During the reading, the clinician should observe carefully the various approaches made to this type of assignment and discuss these with the students later on. Some of the skills which might be checked with this kind of approach include survey techniques, notemaking, outlining, the use of signal words, summarizing, making inferences, and writing precis. Probably the group for this type of work should not exceed three or four students in most instances or the clinician will have difficulty in making adequate observations of reading behavior. All these informal procedures, of course, are intended to complement standardized reading tests better.

Because the response of each person to a given piece of reading matter is probably unique--a personal kind of response, it is often not entirely subject to standardization in many respects. A person not only reads what is before him, he

reads into what is before him; he not only understands what is written, but he understands in terms of a unique background of experience, of peculiar sets of interests, and for very personal reasons. All this, taken with the consideration that the labels on subtests are perhaps poor indicators of the jobs they are actually trying to perform, points up the need for informal diagnosis to accompany all standardized test procedures. Fortunately, the very difficulties which seem to frustrate efforts to develop standardized measures and diagnosis of reading skills is simultaneously the element which makes instructional programs based on these diagnoses effective. If abilities are substantially related to one another and overlap to the extent that studies seem to indicate, it is very likely that efforts devoted to improving any one particular subskill tends to carry over and improve other types of reading skill as well. The diagnostician therefore is justified in setting up varied types of goals or outcomes for instruction, in preparing exercises calculated to develop power in particular reading skills, use tests for analyzing these skills and still produce an effective reader. Diagnosis, like good teaching, in the best analysis, must be creative if it is to be truly effective.

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